

## CLAIM AMENDMENTS

Claims 1-6 (canceled)

7. (previously presented) An isolated nucleic acid molecule 20-51039 contiguous nucleotides in length consisting of a reverse or forward strand of a region of SEQ ID NO:4, wherein said region is selected from the group consisting of a 5'-non coding region between nucleotides 51039-41739 of SEQ ID NO:4; a 3'-non-coding region between nucleotides 9503-1 of SEQ ID NO:4; a contiguous intron-exon region between nucleotides 41738-9502 of SEQ ID NO:4, wherein a sequence segment between nucleotides 41738-9502 of SEQ ID NO:4 encodes human mouse double minute 2 homolog depicted in SEQ ID NO:2; a contiguous exon-intron region between nucleotides 41738-9502 of SEQ ID NO:4, wherein a sequence segment between nucleotides 41738-9502 of SEQ ID NO:4 encodes human mouse double minute 2 homolog depicted in SEQ ID NO:2; an intron depicted in nucleotides 36385-40645, 36309-33127, 32994-29616, 29564-25577, 25507-25384, 25287-21169, 21006-14110, 13953-13267, and/or 13188-10665; a region comprising a dinucleotide of the following group: 41739-41738, 40645-40646, 36309-36310, 36384-36385, 32994-32995, 33126-33127, 29564-29565, 29615-29616, 25507-25508, 25287-25288, 25383-25384, 25576-25577, 21006-21007, 21168-21169, 14109-14110, 13953-13954, 13266-13267, 13188-13189, 10664-10665 and/or 9504-9503; a transcription binding site selected from the group consisting of

| BINDING SITES | huMDM2, location in SEQ ID NO:4                        |
|---------------|--------------------------------------------------------|
| AP1_C:        | 36-46, 2876-2886;                                      |
| AP4_Q5:       | 7944-7980;                                             |
| AP4_Q6:       | 7943-59, 8924-8940, 9294-9310;                         |
| ARNT_01:      | 1682-1706, 2193-2217, 9201-9225;                       |
| BRN2_01:      | 1040-1058, 7803-7821;                                  |
| CAAT_01:      | 3292-3306;                                             |
| CDPCR3HD_01:  | 6522-6540;                                             |
| CEBPB_01:     | 1424-1438, 3917-3931, 4178-4192, 4787-4801, 6855-6869; |
| CREL_01:      | 5630-5642;                                             |
| DELTAEF1_01:  | 83-95, 6328-6340;                                      |

|            |                                                                                                                                        |
|------------|----------------------------------------------------------------------------------------------------------------------------------------|
| FREAC7_01: | 2757-2773, 5154-5170, 5823-5839;                                                                                                       |
| GATA1_04:  | 4846-4858, 7017-7029;                                                                                                                  |
| GATA1_05:  | 8464-8476;                                                                                                                             |
| GATA2_02:  | 6045-6057, 6073-6085, 6142-6154;                                                                                                       |
| GATA2_03:  | 2489-2501, 3323-3335, 3384-3396, 7393-7405;                                                                                            |
| GATA3_02:  | 3264-3276, 6870-6882;                                                                                                                  |
| GATA3_03:  | 40-52, 5729-5741, 6529-6541, 6874-6886, 7041-7053,<br>7589-7601;                                                                       |
| GATA_C: 7  | 349-7361, 8188-8200;                                                                                                                   |
| HFH2_01:   | 1743-1759, 7995-8011;                                                                                                                  |
| HFH3_01:   | 502-518, 1739-1755, 4160-4176, 9402-9418, 9418-9434;                                                                                   |
| HFH8_01:   | 8184-8200;                                                                                                                             |
| IK2_01:    | 951-963, 3588-3600;                                                                                                                    |
| MZF1_01:   | 1202-1210, 1447-1455, 4997-4005, 5424-5432;                                                                                            |
| NF1_Q6:    | 1480-1500, 8166-8182;                                                                                                                  |
| NFAT_Q6:   | 4190-4208, 6009-6027;                                                                                                                  |
| NKX25_01:  | 741-755, 1648-1662, 1885-1899, 1984-1998, 3609-3623,<br>4928-4942, 5060-5074, 5889-5903, 8850-8864, 9190-9204;                         |
| NKX25_02:  | 2584-2599, 2970-2984, 4644-4658, 5179-5193, 6482-6496;                                                                                 |
| NMYC_01:   | 2560-2572;                                                                                                                             |
| RORA1_01:  | 220-238, 2638-2656;                                                                                                                    |
| S8_01:     | 4644-4656, 4842-4854, 4845-4857, 5200-5212, 5371-5383,<br>5735-5747, 6482-6494, 6541-6553, 6544-6556, 6772-6784, 7270-7292, 7273-7285; |
| SOX5_01:   | 1355-1371, 1430-1446, 3094-3110, 3155-3171, 4669-4685,<br>4692-4708, 4789-4805;                                                        |
| SRY_02:    | 4164-4180, 5665-5681;                                                                                                                  |
| TATA_01:   | 1261-1277, 2574-2590, 2723-2739, 2733-2749, 2770-2786,<br>4199-4215, 4206-4222;                                                        |
| TATA_C:    | 5900-5916, 7456-7472, 7702-7718, 7917-7933; and                                                                                        |

XFD2\_01: 7702-7218, 7917-7933;

a transcription binding site selected from the group consisting of

BINDING SITES huMDM2, location in SEQ ID NO:4

AP1\_C: 12109-12119, 12695-12705, 22600-22610, 24166-24176, 31311-31321, 35234-35244, 39184-39194;

AP1\_Q2: 11952-11962, 12068-12078, 14798-14808, 21748-21758, 22613-22623, 23676-23686, 26562-26572, 30046-30056;

AP1\_Q4: 12695-12705, 31311-31321, 35234-35244, 36295-36305, 38784-38794, 39188-39198;

AP4\_Q6: 31635-31651;

BRN2\_01: 13448-13466, 14764-14782, 28094-28112, 40027-40045;

CAAT\_01: 11288-11302, 15054-15068;

CDPCR3HD\_01: 11286-11304, 13284-13302, 20846-20864, 29344-29362;

CEBPB\_01: 29241-29255;

CREL\_01: 36091-36103, 38873-38885;

DELTAEF1\_01: 18083-18095, 20385-20397, 26955-26967;

FREAC7\_01: 11982-11998, 15187-15202, 16523-16539, 16529-16545, 16587-16603, 16604-16620, 16676-16642, 16633-16649, 16644-16660, 16650-16666, 16657-16673, 16673-16689, 16762-16778, 21332-21348, 25689-25700, 26529-26545, 27767-27783, 29495-29511;

GATA1\_02: 10916-10928, 15775-15789, 18162-18174, 26088-26100, 32518-32530;

GATA1\_03: 28012-28024;

GATA1\_04: 11153-11165, 11630-11642, 13778-13790, 17439-17451, 19300-19312, 21606-21618, 22743-22755, 23747-23759, 25806-25818, 26529-26541, 29424-29436, 30455-30467, 32761-32778, 33352-33364, 33960-33972, 36101-36113, 40007-40019;

GATA1\_05: 11590-11602, 26550-26562, 36737-36749;

GATA1\_06: 18772-18784, 23054-23066, 35568-35580, 37855-37867;

GATA2\_02: 20755-20767, 30830-30842, 34755-34767, 36285-36297, 39143-39155, 39641-39653, 40586-40598;

GATA2\_03: 13535-13547, 22711-22723, 23161-23173, 25028-25040, 27237-

27249, 36277-36289;

GATA3\_02: 11558-11570, 16470-16482, 17225-17237, 19619- 19631, 22156-22168, 22443-22455, 24713-24725, 27619-27631, 32716-32728, 34124-34136, 34163-34175, 36832-36844, 38403-38415;

GATA3\_03: 10869-10881, 11515-11527, 13845-13857, 17221-17233, 18952-18964, 20050-20062, 40171-40183;

GATA\_C: 15848-15860, 18899-18911, 23640-23652, 29072-29084, 30881-30893, 33198-33210, 37472-37484, 38621-38633;

GFI1\_01: 35469-35481, 35492-35504;

HFH2\_01: 15939-15955, 24636-24652, 25866-25882, 32171-32187, 35372-35388, 39457-35473;

HFH3\_01: 13340-13356, 19218-19234, 21328-21344, 21336-21352, 21344-21360, 28062-28078, 32125-32141;

HFH8\_01: 14133-14149, 22578-22584;

HNF3B\_01: 13150-13166, 16505-16521, 25264-25280, 29443-29459, 37654-37670;

IK2\_01: 11547-11559, 17144-17156, 18961-18973, 23883-23895, 27617-27629, 28908-28920, 29241-29253, 30752-30764, 34768-34780;

LYF1\_01: 12319-12331, 19191-19203, 37226-37238, 39430-39442;

MAX\_01: 22974-22986, 33339-33351;

MZF1\_01: 26105-26113, 35187-35195;

NF1\_Q6: 12048-12064, 33334-33354;

NFAT\_Q6: 13295-13313, 14157-14175, 14311-14329, 14414-14432, 18269-18287, 19326-19344, 20801-20819, 21177-21195, 22537-22555, 23861-23879, 25392-25410, 25879-25897, 27524-27542, 30636-30654, 30718-30736, 31525-31543, 33655-33673, 34726-34744, 34917-34535, 34990-35008, 35979-35997, 36479-36493, 36577-36595, 37154-37172, 40224-40242, 40365-40383;

NKX25\_01: 12041-12055, 12340-12354, 12471-12485, 12742-12756, 12877-12891, 13849-13863, 18995-19009, 21440-21454, 21883-21897, 28426-28440, 30964-30978, 32033-32047, 32265-32279;

NKX25\_02: 10998-11012, 12711-12725, 14131-14145, 14726-14740, 16024-16038;

NMYC\_01: 18753-18765, 18754-18766, 23076-23088, 30534-30546, 34400-34412;

RORA1\_01: 13134-13152, 22966-22984, 24934-24952, 33341-33359, 34760-34778;

S8\_01: 11000-11012, 11977-11989, 12048-12060, 12051-12063, 13747-13759, 13923-13935, 13926-13938, 14676-14688, 14679-14691, 16026-16038, 16313-16325, 16316-16328, 17515-17527, 20756-20768, 20759-20771, 23154-23166, 23157-23169, 25198-25210, 25201-25213, 26651-26663, 27508-27520, 27511-27523, 29450-29462, 29478-28490, 29775-29787, 29778-29790, 29813-29825, 29816-29828, 31329-31341, 31677-31689, 31680-31692, 31732-31744, 31735-31747, 36137-36149, 36140-36152, 36812-36824, 36815-36827, 37413-37425, 38679-38691, 39474-39486, 39477-39489;

SOX5\_01: 27397-27413, 27572-27588, 28100-28116, 29230-29246, 29439-29455, 30690-30706, 31595-31611, 33871-33887, 34113-34129, 34624-34640, 37668-37684, 38582-38598, 39124-39140, 40410-40426;

SRY\_02: 20016-20032, 22410-22426, 27329-27345, 29162-29178, 29499-29515, 30646-30662, 31503-31519, 35928-35944, 37324-37340;

TATA\_01: 32722-32738, 32729-32745, 32807-32823, 33825-33841, 34120-34136, 35433-35449, 36593-36609;

TATA\_C: 11015-11031, 11817-11833, 13635-13651, 14930-14946;

TCF11\_01: 18543-18549, 22574-22580, 31281-31297, 31489-31505, 38754-38770;

USF\_01: 23075-23087, 32577-32589;

VMYB\_02: 11526-11538, 17384-17396, 18400-18412, 19549-19561, 22188-22200, 40486-40508 and

XFD2\_01: 16620-16636, 18153-18169, 22102-22118, 23141-23157.

And a transcription binding site selected from the group consisting of

#### BINDING SITES

huMDM2,1 location in SEQ ID NO:4

AP1\_C: 44584-44594, 49069-49079;

AP1\_Q2: 42174-42184, 45217-45227, 48422-48422, 50447-50457;

AP1\_Q4: 42702-42712, 50806-50816;

AP4\_Q6: 42117-42133, 42118-42134, 42244-42260, 45432-45448; 45433-45449, 46609-46625;

BRN2\_01: 42310-42328, 44022-44040, 47514-47532, 48900-48918, 48967-48985;

CAAT\_01: 44866-44880;

CDPCR3HD\_01: 45671-45689, 49219-49237;

|            |                                                                                                         |
|------------|---------------------------------------------------------------------------------------------------------|
| CREL_01:   | 42437-42449, 49797-49809;                                                                               |
| FREAC7_01: | 47026-47042, 47292-47308, 47658-47674;                                                                  |
| GATA1_02:  | 43482-43494, 48926-48938, 49284-49296;                                                                  |
| GATA1_03:  | 47371-47383;                                                                                            |
| GATA1_04:  | 43054-43066, 43162-43162, 43967-43979, 45464-45476, 45916-45928, 47763-47775;                           |
| GATA1_05:  | 49319-49331, 49459-49471;                                                                               |
| GATA1_06:  | 47590-47602;                                                                                            |
| GATA2_02:  | 42660-42672, 43475-43487;                                                                               |
| GATA2_03:  | 43714-43726, 50948-50960;                                                                               |
| GATA3_02:  | 49155-49167, 49844-49856;                                                                               |
| GATA3_03:  | 42202-42214, 44810-44822, 48438-48450, 49136-49148, 49337-49349, 49869-49881;                           |
| GATA_C:    | 44011-44023, 45256-45268, 45823-45835, 47915-47927, 49201-49213, 49573-49585;                           |
| GFI1_01:   | 46606-46618, 47063-47075;                                                                               |
| HFH3_01:   | 47030-47046, 47284-47300, 47288-47304;                                                                  |
| IK2_01:    | 45275-45287;                                                                                            |
| LYF1_01:   | 44564-44576, 46991-47003, 49567-49579;                                                                  |
| MAX_01:    | 43234-43246, 48726-48738;                                                                               |
| MZF1_01:   | 41772-41780, 42290-42298, 42295-42303, 44507-44515, 45105-45113, 45203-45211, 49948-49956, 50774-50782; |
| NF1_Q6:    | 50209-50229;                                                                                            |
| NFAT_Q6:   | 42061-42079, 44418-44436, 46399-46417, 47974-47992, 49267-49285, 49964-49982, 50392-50410;              |
| NKX25_01:  | 42394-42408, 43507-43521, 46115-46129;                                                                  |
| RORA1_01:  | 45073-45091, 48718-48736;                                                                               |
| S8_01:     | 43552-43564, 45214-45226, 47160-47172, 48419-48431, 49295-49307, 50379-50391;                           |
| SOX5_01:   | 43716-43732, 46351-46367, 47156-47172, 47774-47790, 47868-                                              |

47884, 47974-47990, 48915-48931, 50323-50339;  
TATA\_01: 45588-45604, 47625-47641, 48026-48042, 48659-48675, 49056-49072, 49079-49095, 49152-49168;  
TCF11\_01: 49115-49131;  
VMYB\_02: 42010-42022, 42279-42291, 44651-44663; and  
XFD2\_01: 42870-42886, 42910-42926.

Claims 8-9 (canceled)

10. (previously presented) A composition comprising the nucleic acid molecule of claim 7 and a carrier.

Claims 11-14 (canceled)

15. (previously presented) A kit comprising the nucleic acid molecule of claim 7.

16. (previously presented) The kit according to claim 15, in which the nucleic acid molecule is labeled with a detectable substance.

17. (previously presented) A solid support comprising the nucleic acid molecule of claim 7.

18. (previously presented) The solid support of claim 17 wherein said support is a microarray.

Claim 19 (canceled)

20. (previously presented) The solid support of claim 18, which further comprises a nucleic acid molecule encoding human mouse double minute 2 homolog, complementary sequence thereof or a portion of said nucleic acid molecule containing at least 20 contiguous nucleotides.

Claims 21-22 (canceled)

23. (previously presented) A method for detecting the presence or absence of SEQ ID NO:4 or its fully complementary sequence in a sample, said method comprising (a) contacting the sample with the nucleic acid molecule of claim 7 and (b) determining whether the nucleic acid molecule binds to said nucleic acid sequence in the sample.
24. (previously presented) An isolated nucleic acid molecule 20-5000 contiguous nucleotides in length consisting of a reverse or forward strand of a contiguous exon-intron region between nucleotides 41738-9502 of SEQ ID NO:4 or a contiguous intron-exon region between nucleotides 41738-9502 of SEQ ID NO:4, wherein a sequence segment between 41738-9502 of SEQ ID NO:4 encodes human mouse double minute 2 homolog depicted in SEQ ID NO:2.
25. (previously presented) The isolated nucleic acid molecule of claim 24, wherein said nucleic acid molecule is 20-5000 contiguous nucleotides in length and comprises nucleotides 41739-41738, 40645-40646, 36309-36310, 36384-36385, 32994-32995, 33126-33127, 29564-29565, 29615-29616, 25507-25508, 25287-25288, 25383-25384, 25576-25577, 21006-21007, 21168-21169, 13953-13954, 14109-14110, 13188-13189, 13266-13267, 10664-10665 and/or 9504-9503 of SEQ ID NO:4 or their reverse strands.

Claims 26-29 (canceled)

30. (previously presented) A microarray comprising a plurality of the nucleic acid molecules of claim 7.
31. (previously presented) The microarray of claim 30 wherein said microarray further comprises a nucleic acid molecule encoding human mouse double minute 2 homolog, complementary sequence thereof or a portion of said nucleic acid molecule containing at least 20 contiguous nucleotides.
32. (canceled)
33. (previously presented) A method for detecting the nucleic acid molecule of claim 7 in a sample comprising (a) amplifying said nucleic acid molecule and (b) detecting the presence of the amplified nucleic acid molecule of (a) wherein amplifying is carried out by polymerase chain reaction.